

SEQUENCE LISTING

<110> Elan Pharmaceuticals, Inc.
 Regents of the University of California
 Schenk, Dale B.
 Masliah, Eliezer

<120> PREVENTION AND TREATMENT OF SYNUCLEINOPATHIC DISEASE

<130> 015270-008920US

<140> US 10/____,____

<141> 2003-10-31

<150> US 60/423,012

<151> 2002-11-01

<160> 57

<170> PatentIn version 3.1

<210> 1

<211> 140

<212> PRT

<213> Homo sapiens

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Met	Asp	Val	Phe	Met	Lys	Gly	Leu	Ser	Lys	Ala	Lys	Glu	Gly	Val	Val
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Ala	Ala	Ala	Glu	Lys	Thr	Lys	Gln	Gly	Val	Ala	Glu	Ala	Ala	Gly	Lys
			20					25					30		

Thr	Lys	Glu	Gly	Val	Leu	Tyr	Val	Gly	Ser	Lys	Thr	Lys	Glu	Gly	Val
		35					40					45			

Val	His	Gly	Val	Ala	Thr	Val	Ala	Glu	Lys	Thr	Lys	Glu	Gln	Val	Thr
	50					55					60				

Asn	Val	Gly	Gly	Ala	Val	Val	Thr	Gly	Val	Thr	Ala	Val	Ala	Gln	Lys
65					70					75				80	

Thr	Val	Glu	Gly	Ala	Gly	Ser	Ile	Ala	Ala	Ala	Thr	Gly	Phe	Val	Lys
				85					90					95	

Lys	Asp	Gln	Leu	Gly	Lys	Asn	Glu	Glu	Gly	Ala	Pro	Gln	Glu	Gly	Ile
			100					105					110		

Leu	Glu	Asp	Met	Pro	Val	Asp	Pro	Asp	Asn	Glu	Ala	Tyr	Glu	Met	Pro
			115				120					125			

Ser Glu Glu Gly Tyr Gln Asp Tyr Glu Pro Glu Ala
 130 135 140

<210> 2
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<400> 2

Glu Gln Val Thr Asn Val Gly Gly Ala Val Val Thr Gly Val Thr Ala
 1 5 10 15

Val Ala Gln Lys Thr Val Glu Gly Ala Gly Ser Ile Ala Ala Ala Thr
 20 25 30

Gly Phe Val
 35

<210> 3
 <211> 28
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 <213> Homo sapiens

<400> 3

Lys Glu Gln Val Thr Asn Val Gly Gly Ala Val Val Thr Gly Val Thr
 1 5 10 15

Ala Val Ala Gln Lys Thr Val Glu Gly Ala Gly Ser
 20 25

<210> 4
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 <212> PRT
 <213> Influenza virus

<400> 4

Pro Lys Tyr Val Lys Gln Asn Thr Leu Lys Leu Ala Thr
 1 5 10

<210> 5
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 <212> PRT
 <213> Plasmodium sp.

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Glu Lys Lys Ile Ala Lys Met Glu Lys Ala Ser Ser Val Phe Asn Val
 1 5 10 15

<210> 6

<211> 10
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<213> Hepatitis B virus

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Phe Phe Leu Leu Thr Arg Ile Leu Thr Ile
1 5 10

<210> 7
<211> 19
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<213> Homo sapiens

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Asp Gln Ser Ile Gly Asp Leu Ile Ala Glu Ala Met Asp Lys Val Gly
1 5 10 15

Asn Glu Gly

<210> 8
<211> 14
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<213> Mycobacterium bovis

<400> 8

Gln Val His Phe Gln Pro Leu Pro Pro Ala Val Val Lys Leu
1 5 10

<210> 9
<211> 15
<212> PRT
<213> Clostridium tetani

<400> 9

Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile Thr Glu Leu
1 5 10 15

<210> 10
<211> 21
<212> PRT
<213> Clostridium tetani

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Phe Asn Asn Phe Thr Val Ser Phe Trp Leu Arg Val Pro Lys Val Ser
1 5 10 15

Ala Ser His Leu Glu
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<210> 11
<211> 16
<212> PRT
<213> Human immunodeficiency virus

<400> 11

Lys Gln Ile Ile Asn Met Trp Gln Glu Val Gly Lys Ala Met Tyr Ala
1 5 10 15

<210> 12
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<223> X is preferably cyclohexylalanine, tyrosine or phenylalanine

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Ala Lys Xaa Val Ala Ala Trp Thr Leu Lys Ala Ala Ala
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<210> 13
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<400> 13

Lys Glu Gln Val Thr Asn Val Cys Gly Gly Ala Val Val Thr
1 5 10

<210> 14
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Gly Val Thr Ala Val Ala Gln Lys Thr Val Glu Cys Gly
1 5 10

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<223> X is amino-heptanoic acid

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<223> X is NAC peptide

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<210> 17
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<223> X = NAC peptide

<400> 17

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1 5 10 15

Ser Ala Ser His Leu Glu
20

<210> 18
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<210> 19
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 <223> X= NAC peptide

<400> 19

Xaa Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile Thr Glu Leu
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Phe Asn Asn Phe Thr Val Ser Phe Trp Leu Arg Val Pro Lys Val Ser
 20 25 30

Ala Ser His Leu Glu
 35

<210> 20
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<223> X = cyclohexylalanine, tyrosine or phenylalanine

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<222> (14)..(14)

<223> X= NAC peptide

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Ala	Lys	Xaa	Val	Ala	Ala	Trp	Thr	Leu	Lys	Ala	Ala	Ala	Xaa
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<211> 16

<212> PRT

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<222> (6)..(6)

<223> X= cycloheylalanine, tyrosine, or phenylalanine

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Xaa	Xaa	Xaa	Ala	Lys	Xaa	Val	Ala	Ala	Trp	Thr	Leu	Lys	Ala	Ala	Ala
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<223> X= cycloheylalanine, tyrosine, or phenylalanine

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<222> (14)..(17)

<223> X=NAC peptide

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Ala Lys Xaa Val Ala Ala Trp Thr Leu Lys Ala Ala Ala Xaa Xaa Xaa
1 5 10 15

Xaa

<210> 23

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<212> PRT

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<222> (4)..(4)

<223> X= cycloheylalanine, tyrosine, or phenylalanine

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<210> 24

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<222> (1)..(1)

<223> X=NAC

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Gly Arg

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Pro	Lys	Tyr	Val	Lys	Gln	Asn	Thr	Leu	Lys	Leu	Ala	Thr	Xaa	Xaa	Xaa
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<210> 28
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<210> 29
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Lys Ile Ala Lys Met Glu Lys Ala Ser Ser Val Phe Asn Val Gln Tyr
 20 25 30

Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile Thr Glu Leu Phe Asn Asn
 35 40 45

Phe Thr Val Ser Phe Trp Leu Arg Val Pro Lys Val Ser Ala Ser His
 50 55 60

Leu Glu Xaa Xaa Xaa Xaa Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile
 65 70 75 80

Gly Ile Thr Glu Leu Phe Asn Asn Phe Thr Val Ser Phe Trp Leu Arg

85

90

95

Val Pro Lys Val Ser Ala Ser His Leu Glu
100 105

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1 5 10 15

Cys Phe Asn Asn Phe Thr Val Ser Phe Trp Leu Arg Val Pro Lys Val
20 25 30

Ser Ala Ser His Leu Glu Xaa Gln Tyr Ile Lys Ala Asn Ser Lys Phe
35 40 45

Ile Gly Ile Thr Glu Leu Cys Phe Asn Asn Phe Thr Val Ser Phe Trp
50 55 60

Leu Arg Val Pro Lys Val Ser Ala Ser His Leu Glu Xaa
65 70 75

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<400> 31

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<210> 32
<211> 26
<212> PRT
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<220>
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<400> 32

Glu Gln Val Thr Asn Val Gly Gly Ala Ile Ser Gln Ala Val His Ala
1 5 10 15

Ala His Ala Glu Ile Asn Glu Ala Gly Arg
20 25

<210> 33
<211> 43
<212> PRT
<213> Homo sapiens

<400> 33

Asp Ala Glu Phe Arg His Asp Ser Gly Tyr Glu Val His His Gln Lys
1 5 10 15

Leu Val Phe Phe Ala Glu Asp Val Gly Ser Asn Lys Gly Ala Ile Ile
20 25 30

Gly Leu Met Val Gly Gly Val Val Ile Ala Thr
35 40

<210> 34
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<213> Artificial Sequence

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<400> 34

Asp Ala Glu Phe Arg His Asp Gln Tyr Ile Lys Ala Asn Ser Lys Phe
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Ile Gly Ile Thr Glu Leu
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<400> 35

Asp Ala Glu Phe Arg His Asp Phe Asn Asn Phe Thr Val Ser Phe Trp
1 5 10 15

Leu Arg Val Pro Lys Val Ser Ala Ser His Leu Glu
20 25

<210> 36

<211> 43

<212> PRT

<213> Artificial Sequence

<220>

<223> Conjugate

<400> 36

Asp Ala Glu Phe Arg His Asp Gln Tyr Ile Lys Ala Asn Ser Lys Phe
1 5 10 15

Ile Gly Ile Thr Glu Leu Phe Asn Asn Phe Thr Val Ser Phe Trp Leu
20 25 30

Arg Val Pro Lys Val Ser Ala Ser His Leu Glu
35 40

<210> 37

<211> 22

<212> PRT

<213> Artificial Sequence

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<400> 37

Glu Phe Arg His Asp Ser Gly Gln Tyr Ile Lys Ala Asn Ser Lys Phe
1 5 10 15

Ile Gly Ile Thr Glu Leu
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<210> 38

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Conjugate

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<222> (3)..(3)
<223> X= cycloheylalanine, tyrosine, or phenylalanine

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Ala Lys Xaa Val Ala Ala Trp Thr Leu Lys Ala Ala Ala Asp Ala Glu
1          5          10          15

Phe Arg His Asp
          20

<210> 39
<211> 34
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<213> Artificial Sequence

<220>
<223> Conjugate

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<222> (24)..(24)
<223> X= cycloheylalanine, tyrosine, or phenylalanine

<400> 39

Asp Ala Glu Phe Arg His Asp Asp Ala Glu Phe Arg His Asp Asp Ala
1          5          10          15

Glu Phe Arg His Asp Ala Lys Xaa Val Ala Ala Trp Thr Leu Lys Ala
          20          25          30

Ala Ala

<210> 40
<211> 34
<212> PRT
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<220>
<223> Fusion protein

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<222> (3)..(3)
<223> X= cycloheylalanine, tyrosine, or phenylalanine

<400> 40

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Ala Lys Xaa Val Ala Ala Trp Thr Leu Lys Ala Ala Ala Asp Ala Glu
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Phe Arg His Asp Asp Ala Glu Phe Arg His Asp Asp Ala Glu Phe Arg
 20 25 30

His Asp

<210> 41
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 <212> PRT
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 <223> X= cycloheylalanine, tyrosine, or phenylalanine

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 1 5 10 15

Lys Ala Ala Ala
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<400> 42

Asp Ala Glu Phe Arg His Asp Ile Ser Gln Ala Val His Ala Ala His
 1 5 10 15

Ala Glu Ile Asn Glu Ala Gly Arg
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<210> 43
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 <212> PRT
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Phe Arg His Asp Ser Gly Tyr Ile Ser Gln Ala Val His Ala Ala His
1 5 10 15

Ala Glu Ile Asn Glu Ala Gly Arg
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<210> 44

<211> 24

<212> PRT

<213> Artificial Sequence

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Glu Phe Arg His Asp Ser Gly Ile Ser Gln Ala Val His Ala Ala His
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Ala Glu Ile Asn Glu Ala Gly Arg
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<211> 34

<212> PRT

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<400> 45

Pro Lys Tyr Val Lys Gln Asn Thr Leu Lys Leu Ala Thr Asp Ala Glu
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Phe Arg His Asp Asp Ala Glu Phe Arg His Asp Asp Ala Glu Phe Arg
20 25 30

His Asp

<210> 46

<211> 27

<212> PRT

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<220>

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<400> 46

Asp Ala Glu Phe Arg His Asp Pro Lys Tyr Val Lys Gln Asn Thr Leu
1 5 10 15

Lys Leu Ala Thr Asp Ala Glu Phe Arg His Asp
20 25

<210> 47
<211> 34
<212> PRT
<213> Artificial Sequence

<220>
<223> Fusion protein

<400> 47

Asp Ala Glu Phe Arg His Asp Asp Ala Glu Phe Arg His Asp Asp Ala
1 5 10 15

Glu Phe Arg His Asp Pro Lys Tyr Val Lys Gln Asn Thr Leu Lys Leu
20 25 30

Ala Thr

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<212> PRT
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<220>
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Asp Ala Glu Phe Arg His Asp Asp Ala Glu Phe Arg His Asp Pro Lys
1 5 10 15

Tyr Val Lys Gln Asn Thr Leu Lys Leu Ala Thr
20 25

<210> 49
<211> 79
<212> PRT
<213> Artificial Sequence

<220>
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<400> 49

Asp Ala Glu Phe Arg His Asp Pro Lys Tyr Val Lys Gln Asn Thr Leu
1 5 10 15

Lys Leu Ala Thr Glu Lys Lys Ile Ala Lys Met Glu Lys Ala Ser Ser
20 25 30

Val Phe Asn Val Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile
35 40 45

Thr Glu Leu Phe Asn Asn Phe Thr Val Ser Phe Trp Leu Arg Val Pro
50 55 60

Lys Val Ser Ala Ser His Leu Glu Asp Ala Glu Phe Arg His Asp
65 70 75

<210> 50
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<213> Artificial Sequence

<220>
<223> Fusion protein

<400> 50

Asp Ala Glu Phe Arg His Asp Asp Ala Glu Phe Arg His Asp Asp Ala
1 5 10 15

Glu Phe Arg His Asp Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly
20 25 30

Ile Thr Glu Leu Asn Asn Phe Thr Val Ser Phe Trp Leu Arg Val Pro
35 40 45

Lys Val Ser Ala Ser His Leu Glu
50 55

<210> 51
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<400> 51

Asp Ala Glu Phe Arg His Asp Gln Tyr Ile Lys Ala Asn Ser Lys Phe
1 5 10 15

Ile Gly Ile Thr Glu Leu Cys Phe Asn Asn Phe Thr Val Ser Phe Trp
20 25 30

Leu Arg Val Pro Lys Val Ser Ala Ser His Leu Glu
35 40

<210> 52
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<212> PRT
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<220>
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<400> 52

Asp Ala Glu Phe Arg His Asp Gln Tyr Ile Lys Ala Asn Ser Lys Phe
1 5 10 15

Ile Gly Ile Thr Glu Leu Cys Phe Asn Asn Phe Thr Val Ser Phe Trp
20 25 30

Leu Arg Val Pro Lys Val Ser Ala Ser His Leu Glu Asp Ala Glu Phe
35 40 45

Arg His Asp
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<210> 53
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
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<400> 53

Asp Ala Glu Phe Arg His Asp Gln Tyr Ile Lys Ala Asn Ser Lys Phe
1 5 10 15

Ile Gly Ile Thr Glu Leu
20

<210> 54
<211> 14
<212> PRT
<213> Homo sapiens

<400> 54

Lys Glu Gln Val Thr Asn Val Cys Gly Gly Ala Val Val Thr
1 5 10

<210> 55
<211> 13

<212> PRT
<213> Homo sapiens

<400> 55

Gly Val Thr Ala Val Ala Gln Lys Thr Val Glu Cys Gly
1 5 10

<210> 56
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<220>
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<223> X = amino-heptanoic acid

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1 5 10

<210> 57
<211> 14
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<213> Homo sapiens

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<222> (1)..(1)
<223> ACETYLATION
X= Aecylated proline

<220>
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<223> X = Aecylated proline

<400> 57

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1 5 10